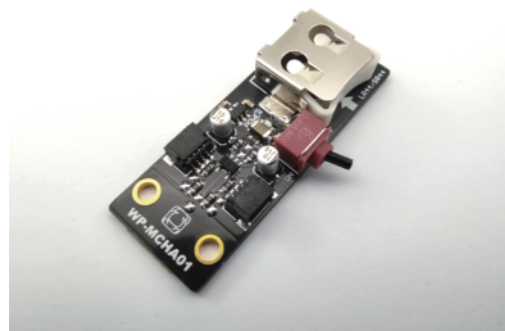




# Head Amp for MC Cartridges

## WP-MCHA01 Ver.2



**KYOHTRISU**  
共立電子産業株式会社

●Description:  
Head amp for MC cartridge - Fully Assembled board.  
Integrated design for easy attachment and use on the headshell.  
Operates with a single button battery due to built-in step-up circuit.

●"Specifications: (\*Battery not included.)  
• Power Supply LR44 or SR44 battery 1 pcs  
• Voltage Gain approx. 16dB  
• Input Impedance 100Ω  
• Board Size 48(D)×18(W)×8(H) mm  
• Weight  
approx. 4.9g (board only)  
approx. 7.7g (including battery and cable)

●Note and Disclaimer  
Initial defect concerning up to 1 week from the commodity purchasing, please contact the store which you purchased with your receipt. Please note that this product and its components are change without notice.  
This product is not intended for installation in equipment or for use as an industrial product.  
We do not provide any compensation will be provided for any direct or indirect damage caused by this product.

"Seller:  
Kyohritsu Electronic Industry Co., Ltd. Kyohritsu Products Division  
5-8-26 Nihonbashi, Naniwa-ku, Osaka 556-0005, JAPAN  
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### ●Overview

The output voltage of the general MC cartridge are about 1/10 compared to an MM cartridge. Therefore, when using a phono equalizer amp for MM cartridges, it becomes necessary to have an amplifier or MC step-up transformer called an MC head amp in the preceding stage.

The WP-MCHA01 is a head amp, but it is an super-compact type designed to be integrated with the headshell. The advantage of this configuration is that it amplifies the weak voltage signal from the MC cartridge close to its source, reducing the impact of external noise that may interfere with the tonearm wiring and phono cable, resulting in low-noise operation. Additionally, with the GND reference points for L and R moving closer to the cartridge, stereo imaging is clarified.

Despite the inconvenience of battery replacement, a holder-type battery case is used to enhance convenience as much as possible. Moreover, it is also possible to use the longer-lasting SR44 battery in addition to the LR44 battery.

### ●Features

Placing a heavy object on the headshell may jeopardize the balance of the tonearm. Therefore, considering factors such as accessibility, cost-effectiveness and the light weight, a single LR44 battery is used.

However, the voltage from a single LR44 battery is insufficient to achieve the amplification required for this amp. To address this, a dedicated IC is used to double the voltage to about 1.5V, forming the amplification circuit.

With this setup, the power voltage becomes approximately 3V, allowing the LED for operation checks to illuminate. but to minimize battery consumption, a high-bright LED is used and illuminated at the minimum current.

For detailed circuit operation information, please refer to the November 2022 issue of "Transistor Technology."

### ●Contents



Head Amp Board Module: 1 piece



Acrylic Cover: 1 piece

Gold-Plated Shell Tip Attached Cable for Headshell Connection

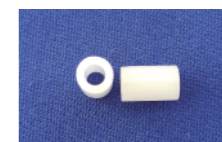


For L Channel (White/Blue) 1 piece For R Channel (White/Blue) 1 piece

Screws and Spacers for Installation  
( Please refer to the 'Assembly Instructions' section for details)



Hex Socket Bolt (Black)  
M2.6×18mm: 2 pieces

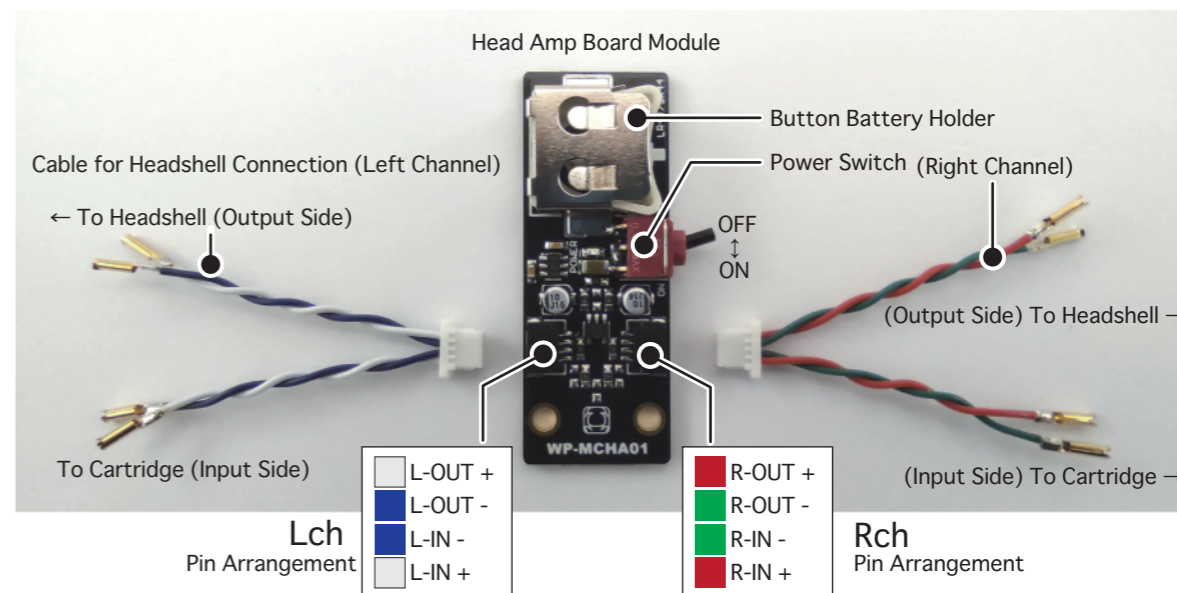


Spacers  
M2.6×8mm: 2 pieces  
(Used when attaching the acrylic cover)



Countersunk screws (Black): 2 pieces each  
M2.6×20mm M2.6×25mm M2.6×30mm

### ●Board Exterior



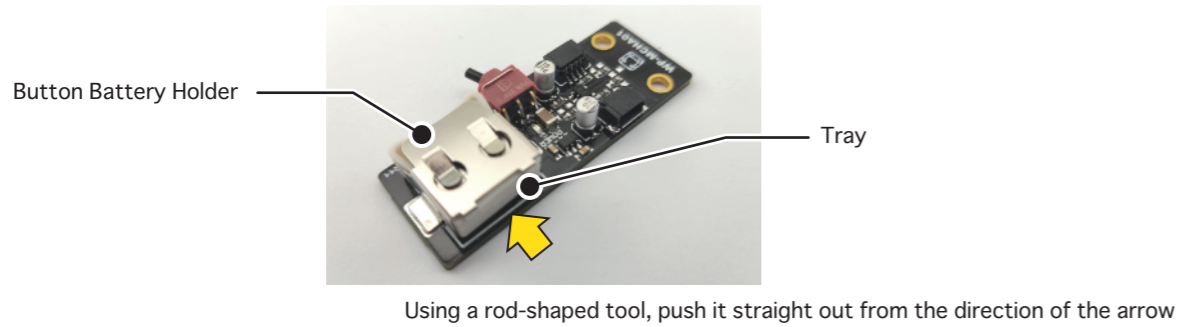
"The shell tip at the end of the headshell connection cable has different dimensions for the input side and output side.

Input Side (To Cartridge): 1.2mm  
Output Side (To Headshell): 1.0mm"

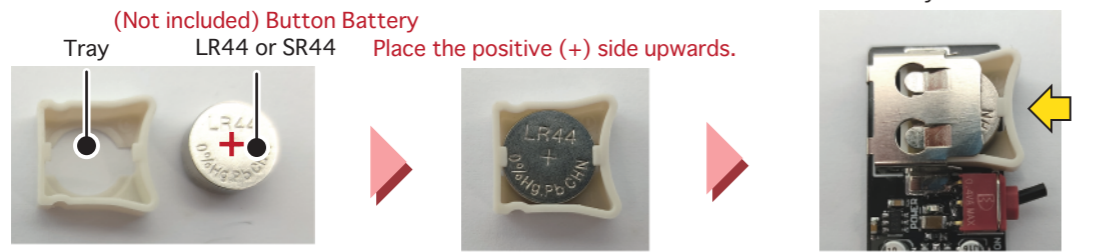
To prevent wire breakage or pin disconnection, always detach the connector with holding the white housing part.

## ●Installing the Battery

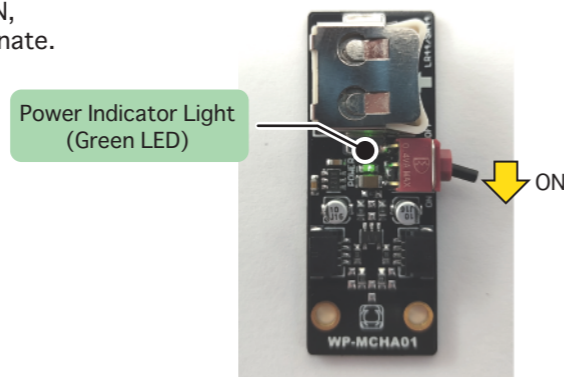
Remove the white plastic tray from the button battery holder on the board.



Push it straight out from the direction of the yellow arrow with using a rod-shaped tool.



After installing the battery, when you switch ON, the power indicator light on the board will illuminate.



### Battery life

The estimated battery lifetime when using LR44 is approximately 7-10 hours (continuous operation). Note that the actual battery lifetime may vary depending on the type of battery used.

If the power indicator light goes out (does not light up even when the power is turned on), it indicates that the battery has reached the end of its life. Please replace it with a new battery.

### If the power does not turn on,

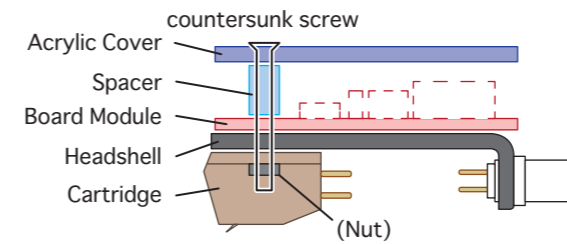
If the power does not turn on even with a new battery, please refer to the 'Maintenance' section in this manual and try cleaning the negative terminal directly beneath the battery holder.

## ●Assembly instruction(Step 1: Fastening Screws)

- Mount the board module to the headshell and cartridge with screw.
- The included acrylic cover is an accessory designed to protect and decorate the circuit on the board from static electricity, dust, and other elements. After confirming the balance of the tonearm, if there is room for increased weight, feel free to use it according to your preference.

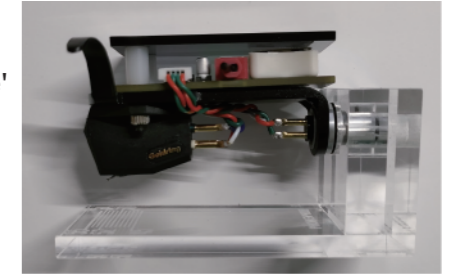
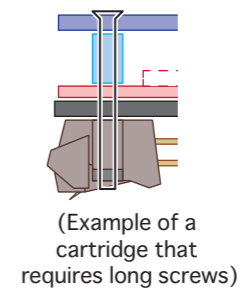
### [Assembly Example: With the Acrylic Cover]

Please refer to the diagram below and to screw the 'Board Module' and 'Acrylic Cover' onto the headshell and cartridge.



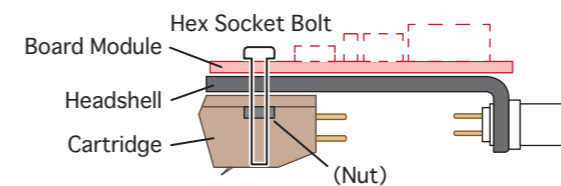
※ There is no continuity on the back of the board module, so insulation between the headshell is not necessary.

※ ※ Three types of countersunk screws (20mm, 25mm, 30mm) are included. Please use the shortest one according to the shape of the cartridge (depth of the attachment holes to the headshell).



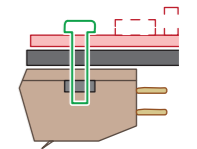
### [Assembly Example: Without the Acrylic Cover]

If attaching the acrylic cover affects the balance of the tonearm, you can screw only the board module onto the headshell.

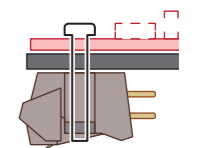
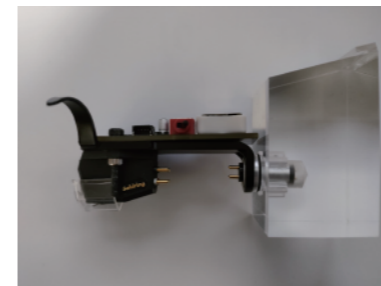


※ There is no continuity on the back of the board module, so insulation between the board module and the headshell is not necessary.

※ The hex socket bolts included with this product are of a relatively long type (18mm), intended to reach even deeper cartridges. If the length is a concern, and there is a risk of interference with the needle or an increase in weight, please consider using the screws provided with the cartridge or commercially available alternatives instead.



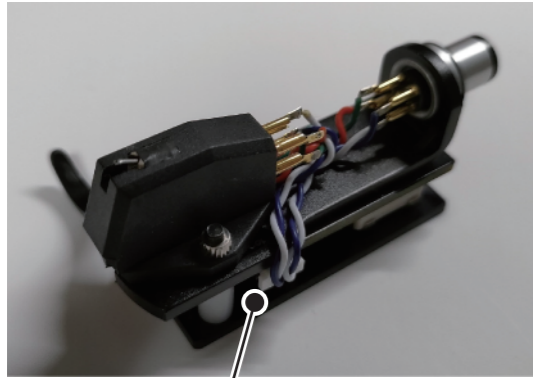
(Example of a cartridge reached by short screws) Using shorter screws can reduce weight



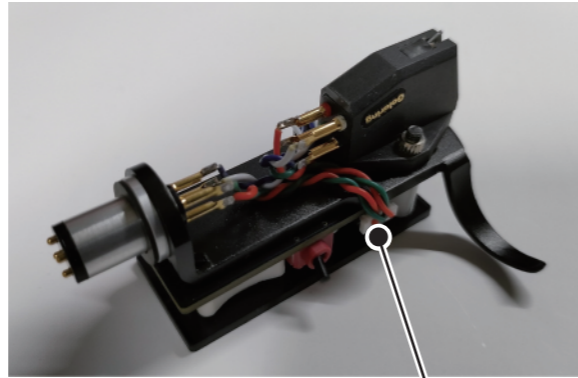
(Example of a cartridge requiring longer screws)

## ●Assembly instruction (Step 2: Wiring)

- After mounting with screw, insert the Lch (Left Channel) and Rch (Right Channel) headshell connection cables into the connectors on the board module. Refer to the "●Board Exterior and wire each shell-tip to the cartridge and headshell.  
(Follow the instructions in the cartridge's user manual which you use, because it may the wiring and color correspondences may vary depending on the model.)



(Lch Connector)



(Rch Connector)

- This head amp has inverted absolute phase, so if you are concerned about sound quality, reverse the + and - of the shell leads on the cartridge side (input side).  
L-IN: White → Blue, Blue → White  
R-IN: Red → Green, Green → Red  
It is not possible to reverse on the headshell side (output side). Sound will be produced even with connections matching the colors. Additionally, some may find that the sound quality is better with connections matching the colors.

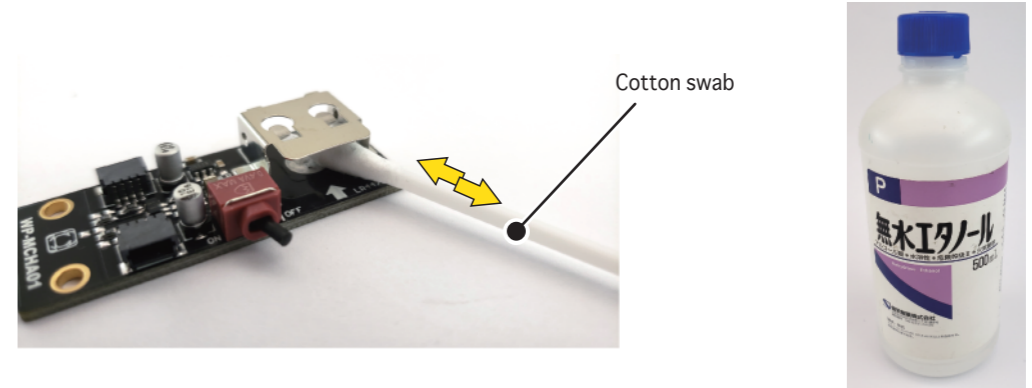
## ●Example of Use:



## ●Maintenance

- If the battery contact deteriorates, improvement can be achieved by cleaning the negative terminal of the battery (directly beneath the battery holder) on the board.
- Use a cotton swab soaked in 'anhydrous ethanol' to clean the electrode on the negative terminal. Finish with a dry cotton swab, install the battery, and check if the contact has been restored.

- ※ Please do not use hard materials for cleaning the negative terminal.
- ※ Before turning on the power, make sure that the board is not wet.



Example of anhydrous ethanol (available at pharmacies, DIY Stores, etc.)

## ●Precautions for Use

- Do not turn the power switch ON/OFF while the preamp volume is turned up; this may cause a popping sound.
- When replacing the battery, make sure to turn off the power of this unit as well as the power of the phono equalizer or preamp.
- If the power switch is ON and the power lamp (green LED) does not light up, it indicates the end of the battery life; replace the battery.
- While the board module is made very lightweight, if the tonearm balance is still not achieved, consider replacing it with a lightweight headshell.

## ●schematic

N/A" indicates non-applicable or not implemented (no component installed)

